

## APPENDIX 8

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### Colorado Canyons National Conservation Area Desired Plant Community



Devils Canyon

## DESIRED PLANT COMMUNITY

Desired plant community (DPC) is a description of a plant community meeting the needs for present and future uses of a particular area. DPC answers the question, “What do we want the plant communities in these areas to look like in the future?”

DPC helps to implement ecosystem management by being ecologically, economically, and socially sound. DPC will help ensure the vegetative communities within an area are compatible with the current or potential uses of that area. DPC combines the vegetative needs of all uses into a common goal rather than having separate goals for each.

The DPC for what is now the Colorado Canyons National Conservation Area was developed by a team of individuals who have an interest in the area. Team members include recreationists, livestock operators, wildlife managers, federal and local government officials, members of environmental organizations, and concerned citizens.

In 1993 an Ecological Site Inventory (ESI) was completed in the Ruby Canyon planning area. ESI is an intensive vegetative inventory that describes the present vegetative communities in the area. The use of ESI helps assure the development of realistic desired plant communities that we know can be obtained. Other vegetative studies, past or present, can also be utilized in the DPC process.

Information on occurrences from the past such as wildfires, prescribed burns, chainings, seedings, and other disturbances can help determine why areas look like they do.

The DPC will guide the BLM in future management of the area. It will help in determining which management actions or activities may or may not lead the Bureau toward its landscape goal. DPC will give us a better understanding on when and where to use the management tools available, such as fire, reseeding, grazing management, or other vegetation manipulation practices. DPC will ensure that vegetative objectives are ecologically based and attainable.

### Ruby Canyon Desired Plant Community

Following is the DPC for each of the management zones. The DPC will be described for each ecological site type. Ecological sites are areas that have a potential for producing similar plant communities based upon similar soils, climate, and topography. Each DPC description for an ecological site will contain a table illustrating the current percent composition of trees, shrubs, forbs, warm season grasses, and cool season grasses for each site write-up area (SWA) and the **desired** percent composition. Also included is the ecological status (E = Early, M = Mid, L = Late) in relation to the potential natural community (PNC). Following the table are general notes pertaining to the ecological site. Figure 3-9 (Chapter 3) identifies the ecological sites of the planning area.

The effort focused on describing a DPC description that allowed for changes to occur but still be acceptable. The description also allowed for diversity in seral stages within ecological site types, understanding that this diversity was desirable as well. SWAs not listed in the DPC description

were either small units or areas of little concern. The DPC team felt there were a few points that need to be made that are important in understanding the DPC and need to be considered in the future use of it.

- The ESI was completed in an above average year precipitation and production wise.
- It is important to remember that the percent composition figures are derived from production figures for each SWA.
- Pinyon-Juniper production data from the ESI were obtained from charts derived by the Natural Resource Conservation Service and are based upon tree size and density of foliage.
- Sagebrush production figures from the ESI are total leaf production, not just current annual growth.
- Half-shrubs are included with shrubs.
- From the teams standpoint both cheatgrass and cryptogammic soils are present and will continue to be part of most vegetative communities at some level. Management should discourage any increase in cheatgrass.
- Photographs of various sagebrush composition levels could be useful in illustrating to future personnel exactly what the defined DPC limits may look like, i.e., it is difficult to visualize what 70 percent composition might look like.

#### North Of River

Overall, the DPC team was satisfied with the current vegetative make-up and condition in the north zone. In general, there were two major areas of focus: 1) Decrease the cheatgrass composition while increasing perennial grasses, and 2) Maintain the shrub and forbs component for antelope habitat.

#### Ecological Site: Alkaline Slopes # 297

Vegetation Type	SWA #						DPC Composition (%)
	35	40	47	100			
	Current Species Composition (%)						
Trees	0	0	0	0			0
Shrubs	11	28	47	39			10 - 50
Forbs	7	22	26	1			5 - 25
W. Grasses	9	14	9	33			5 - 40
C. Grasses	15	2	0	3			5 - 20
Seral Stage	E	M	M	L			E, M or L

Notes:

- Overall, increase perennial grasses particularly cool season and decrease cheatgrass.
- Prefer a mixture of seral stages.
- Maintain shrub and forbs components for antelope forage.

**Ecological Site: Semidesert Loam # 325**

Vegetation Type	SWA #						DPC Composition (%)
	39	48					
	Current Species Composition (%)						
Trees	0	0					0
Shrubs	23	4					4 - 23
Forbs	15	17					15 - 20
W. Grasses	39	11					10 - 45
C. Grasses	3	64					5 - 65
Seral Stage	M	L					M or L

## Notes:

- Prefer a mixture of mid- and late-seral stages to provide diversity of vegetation types.
- A desirable mix of shrubs and grasses are present although an increase in cool season grasses in SWA #39 and shrubs in SWA #48 is desired.

**Ecological Site: Semidesert Juniper # 329**

Vegetation Type	SWA #						DPC Composition (%)
	1	6	8	14	16	19	
	Current Species Composition (%)						
Trees	0	3	59	72	52	6	0 - 40
Shrubs	47	85	3	1	7	15	30 - 70
Forbs	31	0	1	2	18	23	1 - 15
W. Grasses	2	2	0	1	2	6	10 - 50
C. Grasses	1	5	36	14	21	45	10 - 50
Seral Stage	M	M	L	M	L	M	M or L

**Ecological #Site 329 (cont.)**

Vegetation Type	SWA #						DPC Composition (%)
	22	25	28	32	33	34	
	Current Species Composition (%)						
Trees	85	0	15	18	35	10	0 - 40
Shrubs	1	72	64	52	50	39	30 - 70
Forbs	7	1	0	14	4	7	1 - 15
W. Grasses	0	0	2	0	4	12	10 - 50
C. Grasses	3	20	3	8	2	3	10 - 50
Seral Stage	M	L	L	L	L	L	M or L

Vegetation Type	SWA #						DPC Composition (%)
	36	105 141	106	109	110		
	Current Species Composition (%)						
Trees	38	48	31	52	0		0 - 40
Shrubs	39	34	59	29	57		30 - 70
Forbs	3	5	0	5	6		1 - 15
W. Grasses	0	2	1	3	12		10 - 50
C. Grasses	12	10	3	11	15		10 - 50
Seral Stage	L	L	M	L	M		M or L

Notes:

- Prefer a mixture of mid- and late-seral stages to provide diversity of vegetation types.
- Most SWAs need an increase in perennial grasses.

**Ecological Site: Loamy Saltdesert # 401**

Vegetation Type	SWA #						DPC Composition (%)
	24	27	30	31	49	101	
	Current Species Composition (%)						
Trees	0	0	0	0	0	0	0
Shrubs	22	49	31	4	0	52	4 - 35
Forbs	6	0	10	48	20	4	1 - 15
W. Grasses	20	13	12	0	8	26	25 - 60
C. Grasses	12	2	8	29	50	10	15 - 60
Seral Stage	M	M	M	E	--	L	E, M or L

## Notes:

- In SWA 27 and 31, maintain Elsa at current percentage and maintain low plant heights for prairie dog habitat.
- Maintain SWA 114 in Late Seral.
- Prefer a mixture of seral stages for diversity.
- Decrease cheatgrass: Cheatgrass composition ranges from 10 to 40% in these SWAs.
- No seral stage is listed for SWA 49 due to the large amount of crested wheat grass.

**Ecological Site: Sandy Saltdesert # 402**

Vegetation Type	SWA #						DPC Composition (%)
	2	4	5	10	20		
	Current Species Composition (%)						
Trees	0	0	0	0	0		0
Shrubs	12	37	69	5	3		5 - 45
Forbs	11	1	14	18	22		5 - 15
W. Grasses	0	3	1	9	8		10 - 25
C. Grasses	0	5	3	16	6		10 - 25
Seral Stage	E	E	E	M	E		M or L

**Ecological Site # 402 (cont.)**

Vegetation Type	SWA #						DPC Composition (%)
	38	154 160	165 166				
	Current Species Composition (%)						
Trees	0	0	0				0
Shrubs	50	4	25				5 - 45
Forbs	18	13	8				5 - 15
W. Grasses	8	8	21				10 - 25
C. Grasses	7	16	9				10 - 25
Seral Stage	E	M	M				M or L

## Notes:

- Increase perennial grass composition and decrease amount of cheatgrass. Cheatgrass composition ranges from 14 to 76%.
- Prefer mid- and late-seral stages, provides diversity of vegetation types.

**Ecological Site: Stony Saltdesert # 404**

Vegetation Type	SWA #						DPC Composition (%)
	12	102	104	153			
	Current Species Composition (%)						
Trees	0	0	0	0			0
Shrubs	44	73	66	66			40 - 70
Forbs	33	4	11	11			5 - 20
W. Grasses	10	7	10	10			5 - 25
C. Grasses	9	12	0	0			5 - 25
Seral Stage	M	M	M	M			M or L

## Notes:

- Increase cool season grasses in SWA 104 and SWA 153.
- Prefer mid- or late-seral stages.
- Maintain at least a 25% composition of greasewood in SWA 153.

**Ecological Site: Saltdesert Breaks #406**

Vegetation Type	SWA #						DPC Composition (%)
	7	17	26	46	108	115	
	Current Species Composition (%)						
Trees	0	12	0	28	0	0	5 - 20
Shrubs	50	16	44	12	34	44	10 - 45
Forbs	29	11	11	13	18	11	5 - 20
W. Grasses	4	3	6	28	7	6	5 - 50
C. Grasses	12	31	20	1	13	20	5 - 50
Seral Stage	L	L	L	M	L	L	M or L

## Notes:

- Maintain SWA 17 in late seral.
- Prefer mid- or late-seral stages, provides diversity of vegetation types.
- Increase perennial grasses and decrease amount of cheatgrass.

**Ecological Site: Silty Saltdesert # 410**

Vegetation Type	SWA #						DPC Composition (%)
	42	43	45				
	Current Species Composition (%)						
Trees	0	0	0				0
Shrubs	19	72	41				20 - 60
Forbs	18	10	11				10 - 20
W. Grasses	18	0	28				10 - 20
C. Grasses	23	19	0				10 - 25
Seral Stage	L	L	L				L

## Notes:

- Prefer late seral stage, provides diversity of vegetation types.
- Maintain SWA 45 in late seral stage.

**Ecological Site: Foothills Juniper # 447**

Vegetation Type	SWA #						DPC Composition (%)
	9	13	15	18	21	23	
	Current Species Composition (%)						
Trees	70	51	80	39	50	66	39 - 80
Shrubs	1	23	9	45	35	15	10 - 30
Forbs	13	5	1	15	4	7	5 - 15
W. Grasses	1	0	1	0	2	0	10 - 30
C. Grasses	16	4	1	1	1	9	10 - 30
Seral Stage	PNC	L	L	L	L	PNC	PNC or L

Vegetation Type	SWA #						DPC Composition (%)
	29	37	41	103			
	Current Species Composition (%)						
Trees	55	60	77	55			39 - 80
Shrubs	36	14	18	39			10 - 30
Forbs	0	5	1	7			5 - 15
W. Grasses	3	3	0	0			10 - 30
C. Grasses	0	2	1	0			10 - 30
Seral Stage	L	L	L	L			L

Notes:

- Maintain scattered density of juniper for birds with varied shrub/herb understory in SWAs 9, 37, 41, 110.
- Maintain juniper for sensitive bird species and the rare plants *Amsonia jonesii* and *Cryptantha osterhoutii* in SWAs 15 and 21.
- Increase perennial grass cover.

## Colorado River Riparian Inventory

The desired riparian plant communities for the Colorado River are diverse; that is, have a variety of species and age classes. Diversity within riparian areas is primarily a function of hydrology. Diverse plant communities are desirable because they provide scenery, wildlife viewing opportunities, shade, and occasional open riverbanks for recreational use by people. Food, cover, nesting habitat, and travel corridors are provided for wildlife as well. Water quality is improved in two ways; moderated water temperatures from shade and reduced sediment loads through vegetation trapping sediment and stabilizing banks.

The riparian vegetative inventory on the Colorado River was less intensive than the Ecological Site Inventory (ESI) used in the uplands. This inventory consisted of defining the following parameters for each Site Write-up Area (SWA) along the river. These parameters were selected based on major vegetative concerns. Table 1 summarizes these parameters for each SWA within the Colorado River inventory.

- Dominant vegetation: The three most dominant species were identified.
- Mature cottonwoods: The presence or absence of mature cottonwoods was noted.
- Cottonwood regeneration: Age classes of cottonwood trees were noted, particularly saplings.
- Exotic species and weeds: The presence of exotic species and weeds was noted, as well as the degree of presence, e.g. high, medium, low.

**Table 1**

SWA #	Species #1	Species #2	Species #3	M *	C **	W ***
L1	Pofr	Tamarix sp.	Disp	Y	Y	L
L2	Rhtr	Caca	Prunus sp.	N	Y	L
L3	Tamarix sp.	Rhtr	Salix sp.	N	Y	L
L4	Tamarix sp.	Pofr	Rhtr	Y	Y	H
L5	Tamarix sp.	Salix sp.	Carex sp.	N	Y	L
L6	Rhtr	Salix sp.	Caca	N	Y	L
L7	Tamarix sp.	Brte	Artr	N	Y	M
L8	Salix sp.	Carex sp.	Caca	N	Y	L
L9	Tamarix sp.	Salix sp.	Pofr	N	Y	L
L10	Tamarix sp.	Salix sp.	Rhtr	N	Y	M
L11	Tamarix sp.	Salix sp.	Pofr	Y	Y	L
L12	Pofr	Tamarix sp.	Spai	Y	Y	M
L13	Salix sp.	Tamarix sp.	Carex sp.	N	N	L
L14	Salix sp.	Rhtr	Tamarix sp.	N	Y	L
L15	Tamarix sp.	Artr	Pofr	Y	Y	L

**Table 1 (cont.)**

L16	Salix sp.	Tamarix sp.	Brte	N	Y	H
L18	Salix sp.	Pofr	Tamarix sp.	N	Y	L
L19	Salix sp.	Pofr	Carex sp.	Y	Y	L
L20	Brte	Pofr		Y	Y	M
L21	Salix sp.	Tamarix sp.	Rhtr	Y	Y	L
L22	Pofr	Brte		Y	Y	L
L23	Salix sp.	Tamarix sp.	Pofr	Y	Y	L
L24	Salix sp.	Tamarix sp.	Carex sp.	N	Y	L
R1	Tamarix sp.	Pofr	Disp	Y	Y	H
R2	Salix sp.	Carex sp.	Juncus sp.	N	N	L
R3	Pofr	Elan	Tamarix sp.	Y	N	M
R4	Pofr	Salix sp.		Y	Y	L
R5	Pofr	Tamarix sp.	Carex sp.	Y	Y	M
R6	Pofr	Tamarix sp.	Salix sp.	Y	Y	M
R7	Caca	Salix sp.	Rhtr	N	Y	L
R8	Tamarix sp.	Salix sp.	Pofr	Y	Y	L
R9	Tamarix sp.	Rhtr	Pofr	N	Y	L
R10	Tamarix sp.	Salix sp.	Rhtr	N	Y	L
R11	Tamarix sp.	Salix sp.	Rhtr	N	Y	L
R12	Tamarix sp.	Salix sp.	Rhtr	N	Y	L
R13	Tamarix sp.	Salix sp.	Rhtr	N	Y	L
R14	Tamarix sp.	Salix sp.	Rhtr	Y	Y	L
R15	Rhtr	Tamarix sp.	Chna	Y	N	L
R16	Rhtr	Salix sp.		N	N	L
R17	Tamarix sp.	Rhtr	Pofr	Y	Y	M
R18	Pofr	Tamarix sp.	Rhtr	Y	Y	M
R19	Tamarix sp.	Salix sp.	Rhtr	N	N	L
R20	Tamarix sp.	Salix sp.	Chna	N	N	L
R21	Tamarix sp.	Elan	Salix sp.	N	Y	L
R22	Salix sp.	Pofr	Tamarix sp.	N	Y	M
R23	Rhtr	Tamarix sp.	Salix sp.	Y	N	L
R24	Tamarix sp.	Rhtr	Salix sp.	Y	N	L
R25	Pofr	Tamarix sp.	Salix sp.	Y	Y	L
R26	Tamarix sp.	Salix sp.	Pofr	Y	Y	L
R27	Phco	Salix sp.		N	N	L
R28	Tamarix sp.	Salix sp.		N	N	L
R29	Salix sp.	Tamarix sp.		N	N	L
R30	Juniper sp.			N	N	L
R31	Tamarix sp.	Brte		N	N	L
R32	Rhtr	Tamarix sp.	Disp	N	N	L
R33	Salix sp.	Rhtr		N	N	L
R34	Pofr	Tamarix sp.	Salix sp.	Y	Y	L
R35	Rhtr	Tamarix sp.	Salix sp.	N	N	L
R36	Rhtr	Tamarix sp.	Pofr	Y	Y	L
R37	Rhtr	Pofr	Tamarix sp.	Y	Y	L

### **Table 1 (cont.)**

Species Key: Pofr = Fremont Cottonwood; Tamarix sp. = Saltcedar; Disp = Inland saltgrass; Rhtr = Skunkbush Sumac; Caca = Reedgrass; Prunus sp. = Wildrose; Salix sp. = Willow; Carex sp. = Sedge; Brte = Cheatgrass; Spai = Alkali Sacaton; Juncus = Rush; Elan = Russian Olive; Chna = Rubber Rabbitbrush; Phco. = Canarygrass.

\* Presence of Mature Cottonwoods  
Y = Yes  
N = No

\*\* Cottonwood Regeneration  
Y = Yes  
N = No

\*\*\* Weed Status  
H = High  
M = Moderate  
L = Low

Figures 3-1 and 3-10 (Chapter 3) illustrate the presence of mature cottonwoods, cottonwood regeneration, and weed status in relation to the respective SWA along the Colorado River.

Three primary DPC objectives were identified for the Colorado River based on these parameters.

**Objective #1:** The Colorado River Corridor will be managed to provide a mosaic of healthy, diverse community types.

As such the existing reed/willow, willow/sedge, willow/cottonwood, skunkbush sumac/reedgrass, skunkbush sumac/willow community types will be maintained. The cottonwood/salt cedar, salt cedar/skunkbush sumac, cottonwood/Russian olive, salt cedar/Russian olive, salt cedar/willow communities will be tolerated due to the lack of an environmentally acceptable method to remove the salt cedar component. Management actions should be directed toward reducing salt cedar.

SWAs L7, L20, L22, R2, R19, R30 and R31 have unacceptable diversity because of complete dominance by exotic species such as cheatgrass or salt cedar. To the extent possible these areas will be managed to improve species composition of native species.

**Objective #2:** Reduce the current levels of exotic species or weeds where present.

Exotic species like tamarisk (salt cedar), Russian olive, and knapweed are presently a component of the Colorado River riparian community and pose a threat to diversity. Communities with a dominance of exotics are not acceptable.

SWAs L3, L7, L10, R8, R13, R17, R19, R21, R28 and R31 are areas with a dominance of exotics. These areas will be managed to reduce their current levels of exotics or weeds. Other vegetative communities with the presence of exotics will be managed to maintain or reduce their current level. In areas where exotics have not yet been established, every attempt should be made to prevent their introduction.

**Objective #3:** Preserve mature cottonwood stands and promote cottonwood regeneration.

The species and age class of most interest are mature cottonwoods. They are desirable because they offer special scenic qualities, provide shade for moderating water temperatures, shade for recreationists, and are used by wildlife including the bald eagle, which are given special consideration because of their difficulty in reproducing. Management for mature cottonwoods involves preserving potential recruitment areas, protecting existing stands of mixed-aged cottonwoods, and managing of exotic species.

Preserve mature cottonwoods in SWAs L1, L4, L11, L12, L15, L19, L20, L21, L22, L23, R1, R3, R4, R5, R6, R8, R14, R15, R17, R18, R23, R24, R25, R26, R34, R36, and R37.

Additionally, manage SWAs L1, L2, L3, L4, L5, L6, L7, L8, L9, L10, L11, L12, L14, L15, L16, L18, L19, L20, L21, L22, L23, L24, R1, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R17, R18, R21, R22, R25, R26, R34, R36, and R37 to promote existing cottonwood regeneration.

### **South Of River**

Overall, the DPC team dealing with the zone south of the river felt the present vegetative communities were DPC. Given this, the task was to obtain a description that is acceptable and allows for some change. The two major areas of focus for this zone were: 1) acceptable compositions of pinyon and juniper trees and sagebrush, and 2) increasing cool season grasses and reducing cheatgrass.

**Ecological Site: Semidesert Loam (UT) # 209**

Vegetation Type	SWA #						DPC Composition (%)
	60						
	Current Species Composition (%)						
Trees	0						0
Shrubs	69						25 - 70
Forbs	2						2 - 10
W. Grasses	8						5 - 20
C. Grasses	0						5 - 10
Seral Stage	L						L

## Notes:

- Upper limit on sagebrush set at 800 lbs/acre. The higher sagebrush composition is acceptable due to the area being critical deer winter range.
- Decrease cheatgrass and increase cool season grasses.
- Prefer late seral stage.

**Ecological Sites: Semi-desert Loam (UT) #209 (\*)****Deep Loam #292 (\*\*)****Salt Desert Breaks #406 (\*\*\*)**

Vegetation Type	SWA #						DPC Composition (%)
	*	*	**	**	***		
	71	77 92 127 134	173	192	121		
Vegetation Type	Current Species Composition (%)						DPC Composition (%)
	0	0	23	0	0		
	65	80	54	76	61		
Trees	0	0	23	0	0		0 - 25
Shrubs	65	80	54	76	61		5 - 70
Forbs	8	0	4	1	8		3 - 25
W. Grasses	8	0	10	4	8		5 - 30
C. Grasses	11	19	8	20	11		5 - 40
Seral Stage	L	L	M	M	L		M or L

Notes:

- It is desirable that 85% of acres within these SWAs fall within the DPC description of mid- or late-seral stages. The remaining 15% could fall into other seral stages. This allows for diversity in seral stages.
- Other seral stages would be recognized by the extreme domination by one particular vegetation type (trees, shrubs, grasses, forbs).
- No trees were recorded in any of the transects, but some parks have a few trees. A few trees are acceptable.
- SWAs 77, 92, 127 and 134 currently have a composition of sagebrush outside the DPC upper limits.

**Ecological Site: Rolling Loam # 298**

Vegetation Type	SWA #						DPC Composition (%)
	57 113 117 125		179 246	183	188	193 260	
	Current Species Composition (%)						
Trees	0	3	0	0	33	42	0
Shrubs	49	19	61	59	42	39	20 - 60
Forbs	0	0	3	6	1	1	5 - 20
W. Grasses	3	0	6	10	0	0	1 - 20
C. Grasses	46	61	29	21	25	17	20 - 60
Seral Stage	--	--	--	--	--	--	

**Ecological Site #298 (cont.)**

Vegetation Type	SWA #						DPC Composition (%)
	212	217					
	Current Species Composition (%)						
Trees	0	16					0
Shrubs	63	48					20 - 60
Forbs	2	5					5 - 20
W. Grasses	6	3					1 - 20
C. Grasses	24	21					20 - 60
Seral Stage	M	M					M

Notes:

- Cool season grass component is crested wheat grass.
- Unclassified seral stages are due to a large portion of these areas being comprised of crested wheat grass, a seeded non-native.
- SWAs 212 and 217 represent a desired native community.
- Increase forbs and warm season grass composition in most SWAs.
- Limit sagebrush production to 400 lbs/acre.
- Long-term goal is to have native grasses replace the crested wheat grass.

**Ecological Site: Sandy Foothills #310**

Vegetation Type	SWA #						DPC Composition (%)
	169	176 244	177	201	206	218	
	Current Species Composition (%)						
Trees	0	78	0	0	0	70	0 - 20
Shrubs	69	17	62	83	77	23	20 - 60
Forbs	13	1	0	6	0	0	5 - 15
W. Grasses	0	0	5	0	0	0	2 - 20
C. Grasses	2	3	30	0	4	3	5 - 50
Seral Stage	E	E	E	E	E	E	M or L

Notes:

- Overall, prefer an increase in perennial grasses, moderate shrub composition and low tree composition.
- Prefer mid- or late-seral stage. Early seral stages indicate dominance of shrubs or trees.

**Ecological Site: Semi-desert Loam #327**

Vegetation Type	SWA #						DPC Composition (%)
	65	66 94 95 116 122	74 93				
				175	182	189	
	Current Species Composition (%)						
Trees	0	0	0	0	0	23	0 - 35
Shrubs	71	11	9	65	42	62	5 - 70
Forbs	1	27	16	1	0	4	3 - 20
W. Grasses	8	25	30	7	7	0	5 - 40
C. Grasses	15	14	9	21	44	10	5 - 40
Seral Stage	M	M	M	M	M	M	M or L

Vegetation Type	SWA #						DPC Composition (%)
	194	215	219				
	Current Species Composition (%)						
Trees	0	54	0				0 - 35
Shrubs	79	24	45				5 - 70
Forbs	2	1	0				3 - 20
W. Grasses	0	2	6				5 - 40
C. Grasses	20	15	50				5 - 40
Seral Stage	M	M	L				M or L

**Notes:**

- It is desirable that 85% of acres within these SWAs fall within the DPC description of mid- or late-seral stages. The remaining 15% could fall into other seral stages. This allows for diversity in seral stages.
- Other seral stages would be recognized by the extreme domination by one particular vegetation type (trees, shrubs, grasses, forbs).

**Ecological Site: Semidesert Juniper #329**

Vegetation Type	SWA #						DPC Composition (%)
	81	89	90	128	131		
	Current Species Composition (%)						
Trees	67	67	67	67	67		30 - 70
Black Sage	18	18	18	18	18		15 - 25
Shrubs	4	4	4	4	4		1 - 15
Forbs	6	6	6	6	6		5 - 10
W. Grasses	0	0	0	0	0		3 - 20
C. Grasses	4	4	4	4	4		3 - 20
Seral Stage	L	L	L	L	L		L

## Notes:

- It is desirable that 80% of acres within these SWAs fall within the DPC description of mid- or late-seral stages. The remaining 20% could fall into other seral stages. This allows for diversity in seral stages.
- Other seral stages would be recognized by the extreme domination by one particular vegetation type (trees, shrubs, grasses, forbs).
- Overall prefer increase in warm and cool season grasses and decrease in trees.

**Ecological Site: Loamy Saltdesert #401**

Vegetation Type	SWA #						DPC Composition (%)
	63						
	Current Species Composition (%)						
Trees	0						0
Shrubs	26						10 - 35
Forbs	10						5 - 10
W. Grasses	4						10 - 60
C. Grasses	56						15 - 60
Seral Stage	L						L

## Notes:

- Good diversity and balance between vegetation types.
- No one vegetation type should exceed 70% composition to maintain diversity.
- Prevent increase in annuals.

**Ecological Site: Sandy Saltdesert #402**

Vegetation Type	SWA #						DPC Composition (%)
	56	137	138 139	160	164		
	Current Species Composition (%)						
Trees	0	0	0	0	0		0
Shrubs	38	25	37	5	25		30 - 45
Forbs	0	8	3	18	8		2 - 15
W. Grasses	49	21	25	8	21		30 - 45
C. Grasses	5	9	10	17	9		5 - 20
Seral Stage	L	M	M	M	M		M or L

Notes:

- Good diversity and balance of vegetation types.
- Prefer mid- or late-seral stage for diversity.
- \_ Encourage perennial grasses and decrease cheatgrass.

**Ecological Site: Foothills Juniper: #447**  
**Clayey Foothills #289(\*)**

Vegetation Type	SWA #						DPC Composition (%)
	61	64	68	73	75		
	Current Species Composition (%)						
Juniper	66	41	50	57	79		40 - 80
Pinyon Pine	0	5	6	13	10		0 - 10
Sagebrush	7	24	35	0	0		0 - 30
Other shrubs	13	16	1	9	1		1 - 15
W. Grasses	0	2	1	1	0		5 - 10
C. Grasses	4	8	5	13	2		5 - 15
Seral Stage	L	L	L	PNC	L		M, L, or PNC

Vegetation Type	SWA #						DPC Composition (%)
	76	78	79	*			
	187			234			
	Current Species Composition (%)						
Juniper	88	78	70	80			40 - 80
Pinyon Pine	0	4	9	0			0 - 10
Sagebrush	0	0	0	10			0 - 30
Other shrubs	0	2	10	1			1 - 15
W. Grasses	0	2	10	2			5 - 10
C. Grasses	5	5	9	7			5 - 15
Seral Stage	L	L	L	L			M, L or PNC

Notes:

- Mid- to-upper limit of sagebrush desirable in SWAs 64 and 68 for deer winter range.
- Prefer that 80% of acreage in these SWAs fall within the DPC description. The remaining 20% could fall into other seral stages. This allows for diversity in seral stages within this ecological site.
- Other seral stages would be recognized by extreme domination by one or two particular vegetation types (trees, shrubs, grasses, forbs or annuals).
- Maintain a high percentage of tree cover in the southern area of the planning unit including SWAs 116, 117, 180, 181, 188, 190, 192, 196, 197, 199, 219, 221, 222, 223, 226, 230, 234, and 247 to discourage movement of bighorn sheep to private land in Glade Park.
- Other SWAs within this ecological site that are not listed above are smaller areas. The preference is that these SWAs be in various seral stages but not necessarily in a particular one. This also allows for diversity of seral stages.